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Patentanmeldung Nr. Patent application No. Demande de brevet n°

99401752.3

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Blatt 2 der Bescheinigung
Sheet 2 of the certificate
Page 2 de l'attestation

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Titre de l'invention:
Method and device for establishing a communication

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Method and device for establishing a communication

Technical field

The invention deals with the communication ability supported directly by a terminal like a TV, STB, etc.

State of the art

The usual models for communication are:

- You know with whom you want to communicate. You dial his number on the telephone. You get him. It is the basic phone line scheme.
- You are interested in a topic. You search for a chat list focussed on your topic. You communicate with people already connected with your keyboard. It is the basic chat group on internet.

For the time being the TV-like terminals are designed as a media player terminal, and nothing is done to design it as a communication terminal.

Some first steps in this direction are the TV terminals including return channel capability. In this case the terminal offer interactivity capabilities to browse an application and some facilities to send back by the return channel some dedicated information from a server.

Summary of the invention

The goal of the invention is the next step where the terminal offers you the possibility to be connected no more to a server but to another human being through the use of the terminal and a server functionality.

The proposed communication model is:

- You brows your Electronic Program Guide (EPG) to find an inter sting program. You zap on it. You would like to communicate with

someone interested by the same program. Th system connects you to someone watching this program.

An object of the invention is a method for establishing communications in a system comprising at least two end devices and a server linked to said end devices characterized in that it comprises the steps:

- of activating, by a first user of a first end device, a transmission of data to said server, said data relating to the activities of said user on said device and informing said server that said first user wishes to communicate,
- of checking, by said server, whether other users than said first user want to communicate, based on said data relating to activities of users on their respective devices,
- of establishing a communication between at least two users with matching data.

Another object of the invention is a device for establishing communications, said device being linked to at least two end devices; characterized in that it comprises:

- means for storing data sent by users through said end devices, said data relating to the respective activities of users on said end devices;
- means for establishing communication between at least two users with matching data.

Other characteristics and advantages of the invention will appear through the description of a non-limiting embodiment of the invention, described with the help of the enclosed drawings among which:

The figure I gives the generic architecture of the proposed invention.

The figure II gives a temporal diagram of the messages exchanged between two users and the server.

Invention description

We propos with this invention the concept of TV supported communication.

Figure I gives a vi w of the potential architecture of the system. TV like terminals are deployed with a return channel, for example a modem connected to the Public Switched Telephone Network. The terminals are connected through the network to a server. The server manages a database to memorize information like:

- List of people interested by a connection with a set of parameters like:
  - Program number watched by the user
  - Profile of the user (sex, age, interested topic)
  - ...
- List of connected couple of people.
- Archive of connection with a set of parameters:
  - A unique connection Id
  - The phone number of the connected users.
  - The user identity, profile, billing address.
  - ...

A dedicated User Interface is running on the terminal offering a set of new functionalities:

- Profile definition (sex, age, interested topics, ...);
- Connection requirement, to inform the server of the user's interest to be connected to someone;
- Zapping information with the program Id as a parameter, to inform the server on which channel the user is connected.
- Stop a connection;
- Call for a reconnection with the connection Id as a parameter, to ask the server to set up again a previous connection
- Agreement/disagreement on a demand of connection, to acknowledge or not a demand from the server to set up again a previous connection.
- A connection Id browser to enter, get information on, delete a connection description, in such a way the user can come back on one previous connection.

• Deletion of a connection Id in the server archive to eliminate boring connection demands.

The connection is done through a usual phone set or with a dedicated remote control which offer a voice input transported through the return channel.

A potential dynamic behavior (cf figure II) of the system is: A user I is watching TV channel A. He calls the server to ask for a connection with someone watching the same content. The server adds a new field in his list of people interested by a connection with the user Id, connection @, profile, Program Id Channel A. Waiting his connection the user I zaps from channel A to channel B. The terminal send automatically a message to the server to update the program Id watched by the user. The server updates its list of person interested by a connection with this new program Id associated with this user I. When the server find another user with the adequate characteristics, it connects the user I and user II for an audio conference. The server updates its list of connected couple of users with a unique connection Id. The user I and user II terminals archive the connection Id for a potential future reconnection. The user I and user II are able to discuss together directly, just like a phone communication. The TV program is a first support for this communication, which can evolve deeper if more affinity. When one of the users wants to stop the communication, he interacts with the terminal. The terminal sends a message to the server to stop the connection. The server sends a disconnection message to the different users and closes the connection.

Another potential dynamic behavior is:

The user II wants to communicate again with his caller of Monday. As user I as refused to give him his direct phone number. He browses the previous connection Id list and click on the good one. The terminal sends a message to the server to call for a connection identified by the connection Id. The server searches in the connection archive the different parameters to set up the connection. It send a message to the user I terminal asking for an acknowledgement to set up again the connection identified by the connection Id. If the us r I refuses the connection or if he is not connected, the serv r send to user II a messag indicating the connection has been refused. If the user I

accept the connection, the server set up again the connection between the two users.

An important advantage of the invention is that the connection is managed anonymously by the server. It means the users phone numbers are known exclusively by the server. It is an important protection for the users.

The network used in the system can be a low bandwidth network like the phone line with a modem, but can be also the cable return channel.

The invention is independent of the final protocol used between the terminals and the server.

The terminal can be a TV connected to a digital satellite STB with a return channel based on the phone line. The remote control can be equipped with a microphone and a HF connection to the STB to transmit the voice signal. This voice signal is digitalised in the STB. The user interface of the STB is extended with the functionality defined in the description of the invention. The user is able to access to one of this functionality just clicking a button on the screen of the TV.

The server is a computer that we can find with any call centre or vocal server. It is scalable to ensure the ability to support any increase in the user connections. This server manages a database for its different lists defined in the description of the invention. The database engine necessary for this invention is a relational database like Oracle or even the database engine used by the TV operator to manage the subscribers list.

The protocol between the server and the terminals can be any data transfer protocol, and for example a protocol based on a set of keywords for the different messages defined in the invention description associated with a predefined number of parameters.

The TV like terminal can be generalized to any kind of terminal as soon as there is a link with a media. The basic idea is the real time link between a media watching and a communication.

If the network is small the server functionality can be handl d by one terminal playing the server role.

The server can measure the time of connection to bill the service on time duration.

The communication can be set up between more than 2 users with the audio conference facilities.

The system can be enhanced using some visiophone facilities rather than a pure audio connection.

The user profile can be used as an element to choose the most adequate user among the connected users on the target program.

Claims

1. Method for establishing communications in a system comprising at least two end devices and a server linked to said end devices characterized in that it comprises the steps:

- of activating, by a first user of a first end device, a transmission of data to said server, said data relating to the activities of said user on said device and informing said server that said first user wishes to communicate,
- of checking, by said server, whether other users than said first user want to communicate, based on said data relating to activities of users on their respective devices,
- of establishing a communication between at least two users with matching data.

2. Device for establishing communications, said device being linked to at least two end devices; characterized in that it comprises:

- means for storing data sent by users through said end devices, said data relating to the respective activities of users on said end devices;
- means for establishing communication between at least two users with matching data.

3. Device according to claim 2, wherein said communication is established over the telephone network.

4. Device according to claims 2 or 3, further comprising means for storing identifiers of past communications.

Abstract

The invention concerns a method for establishing communications in a system comprising at least two end devices and a server linked to said end devices characterized in that it comprises the steps of activating, by a first user of a first end device, a transmission of data to said server, said data relating to the activities of said user on said device and informing said server that said first user wishes to communicate, of checking, by said server, whether other users than said first user want to communicate, based on said data relating to activities of users on their respective devices, of establishing a communication between at least two users with matching data.

The invention also concerns a device for establishing the communication.

The invention can be applied in particular in the field of interactive television.

Figure 1.

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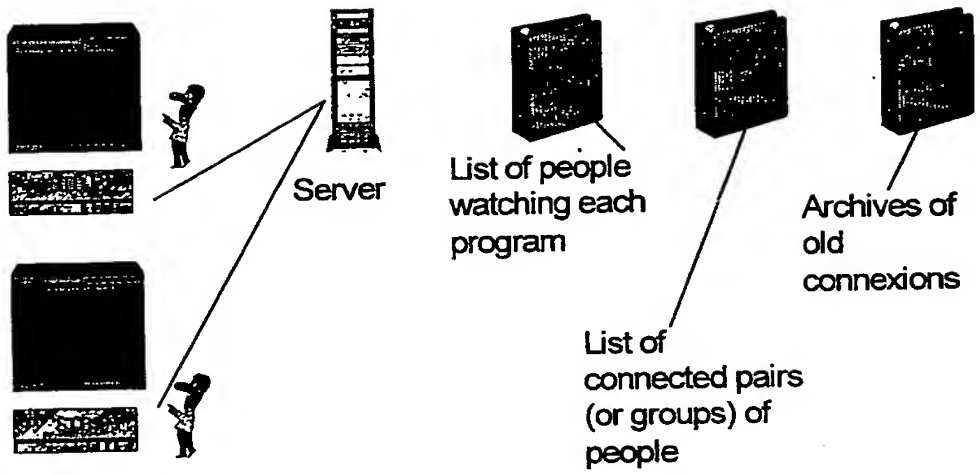
Server
List of people watching each program
List of connected pairs (or groups) of people
Archives of old connexions

Fig. 1

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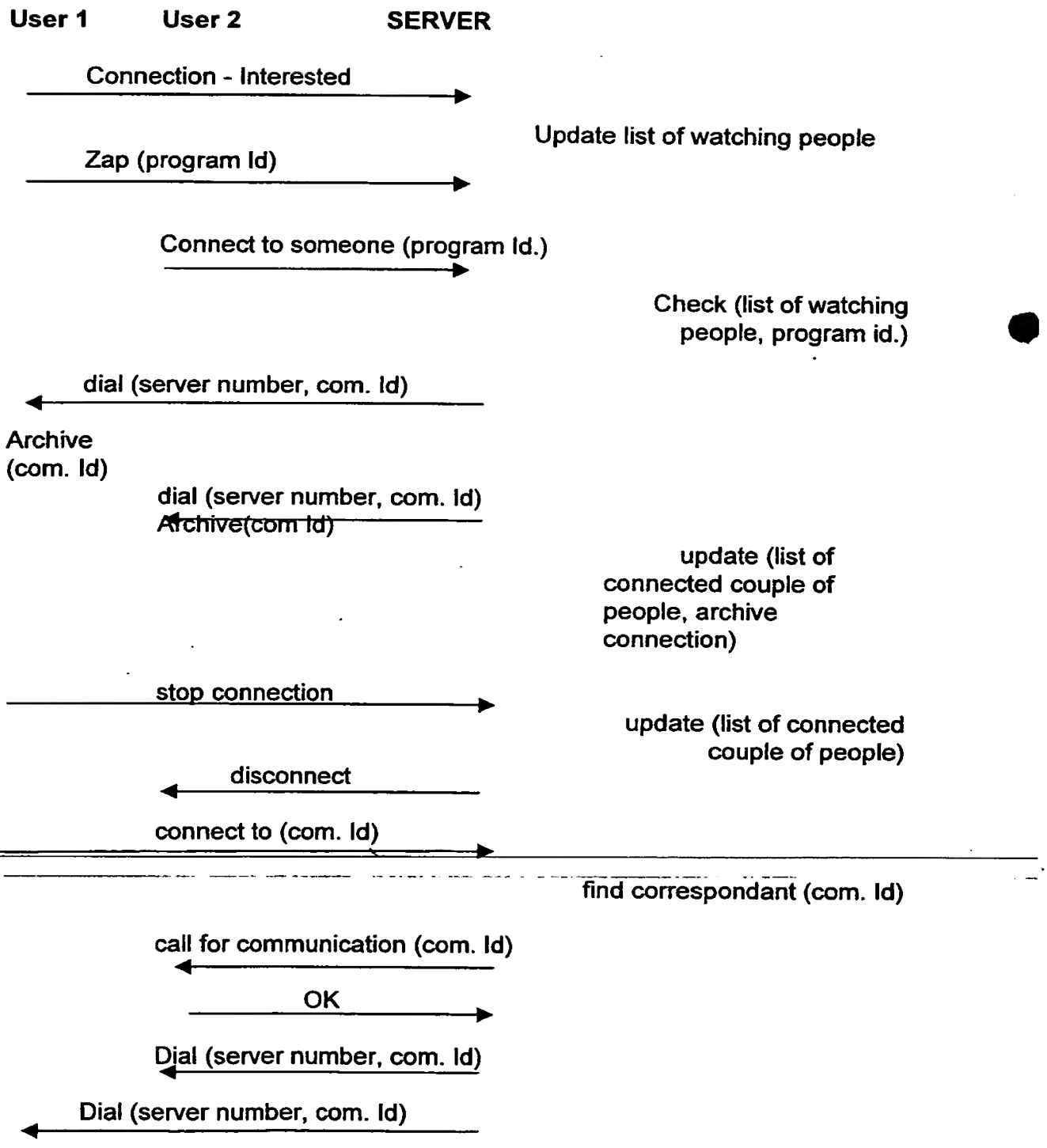
User 1
User 2
SERVER
Connection - Interested
Update list of watching people
Zap (program Id)
Connect to someone (program Id.)
Check (list of watching people, program id.)
dial (server number, com. Id)
Archive (com. Id)
dial (server number, com. Id)
Archive(com Id)
update (list of connected couple of people, archive connection)
stop connection
update (list of connected couple of people)
disconnect
connect to (com. Id)
find correspondant (com. Id)
call for communication (com. Id)
OK
Dial (server number, com. Id)
Dial (server number, com. Id)

Fig. 2